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Cosmic Dust Catalog

Volume 16

Cluster Particles from Earlier Described Collectors

Space and Life Sciences Directorate
Astromaterials Acquistion and Curation Office
Office of the Curator #95

Compiled by
Cosmic Dust Preliminary Examination Team (CDPET)

J.L. Warren, Lockheed Martin, 2400 NASA Parkway, Houston, TX 77058
M.E. Zolensky, NASA/Johnson Space Center, Houston, TX 77058
A.J. Simmons, Lockheed Martin, 2400 NASA Parkway, Houston, TX 77058
T.J. Bevill, Lockheed Martin, 2400 NASA Parkway, Houston, TX 77058

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Since May 1981, NASA has used aircraft to collect cosmic dust particles from Earth's stratosphere. Specially designed dust collectors are prepared for flight and processed after flight in an ultraclean (class-100) laboratory constructed for this purpose at the Lyndon B. Johnson Space Center in Houston, Texas. Particles are individually retrieved from the collectors, examined and cataloged, and made available to the scientific community for research. Cosmic dust thereby joins lunar samples and meteorites as an additional source of extraterrestrial materials for scientific study.

This catalog summarizes preliminary observations on particles retrieved from many collection surfaces. These surfaces were flat plate collectors, which were coated with silicone oil (dimethyl siloxane) and then flown aboard NASA U-2, ER-2 and WB-57F aircraft.

All of the collectors were installed in specially constructed wing pylons which ensured that the necessary level of cleanliness was maintained between periods of active sampling. During successive periods of high altitude (20 km) cruise, the collectors were exposed in the stratosphere by barometric controls and then retracted into sealed storage containers prior to descent.
This catalog does not describe new particles; rather, we have revisited all previous catalogued cluster particles, and allocation.

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